an image sensor having a plurality of photocells, the photocells to provide sensor signals that are a measure of the intensity of light incident upon the sensor, the photocells being part of an integrated circuit (IC) die, the IC die having a first region of semiconductor material having a first conductivity type, each of the plurality of photocells having

a second region of semiconductor material having a second conductivity type opposite the first conductivity type and extending over a portion of the first region, the IC die to permit the incident light to enter a photosensitive portion of the photocell in the second region,

third and fourth regions of semiconductor material having the first conductivity type extending over portions of the second region, the third and fourth regions respectively coupled to first and second electrical contacts, the first contact to provide a sensor signal of the photocell and the second contact to provide a signal for detecting saturation of the photocell.

2. (Amended) The imaging system of claim 1 wherein the plurality of photocells are one or more sets of photocells, each set being associated with a respective monitor node, the second contact of each photocell in a set being coupled to the set's respective monitor node, the system to stop integration in one or more of the sets in response to detecting a predetermined value on the set's respective monitor node.

A2

11. (Amended) The imaging system of claim 8 wherein the plurality of photocells are arranged as an array and are a plurality of sets, each set being a column of the array.

12. (Amended) The imaging system of claim 8 further comprising signal processing circuitry for generating image data in response to the sensor signals, and system controller for controlling the signal processing circuitry.

Sub B1

13. (Amended) The imaging system of claim 8 further comprising optical system to receive the incident light to form an image on the image sensor; and

communication interface for transferring the image data to an image processing system separate from the imaging system.

14. (Amended) The imaging system of claim 8 wherein the third and fourth regions are formed as implants using a MOS fabrication process in which the second region is formed as a well.

A3

16. (Amended) The imaging system of claim 9 further comprising control circuitry to generate control signals that are coupled to the photocells to control a time interval during which the intensity of the incident light is measured, wherein the control circuitry is to cause the set's respective monitor node to be pulled high in response to detecting the predetermined value.

Please add the following claims:

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--~~17~~ 10. The imaging system of claim ~~8~~ 1 wherein each photocell further includes a source follower whose input is coupled to the first contact and whose output is to provide the sensor signal of the photocell.--

--~~18~~ 11. The imaging system of claim ~~17~~ 10 wherein each photocell further includes a switching MOS transistor coupled to selectively forward the sensor signal of the photocell from the output of the source follower.--

--~~19~~ 12. The imaging system of claim ~~18~~ 11 wherein the first through fourth regions in each photocell are part of a separate, parasitic bipolar junction transistor having two emitter contacts.--